

CLAIMS

What is claimed is:

1. An innerduct guide tube assembly comprising:

at least one guide tube; and

5 a textile sleeve disposed about said guide tube so that said guide tube is in slidable relation with said textile sleeve.

2. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is a woven article.

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3. The innerduct guide tube assembly set forth in claim 2, wherein said textile sleeve is made from material selected from the group consisting of glass, aramid, PVDF, melamine, ceramic, polyvinyl chloride, polyphenylene sulfide, polyester, nylon, Teflon, PEEK and polyvinylidene fluoride, mineral fibers, basalt, carbon or any combination

15 thereof.

4. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is made from a monofilament fiber.

20 5. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve exhibits a breaking strength in the longitudinal direction of greater than 600 pounds.

6. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is made of fire resistant materials, chosen from the group consisting of polytetrafluoroethylene, polyvinylidene fluoride, or PEEK.

5 7. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is at least the same length as said guide tube.

8. The innerduct guide tube assembly set forth in claim 1, wherein a plurality of guide tubes is disposed within a single textile sleeve.

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9. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is a composite material.

10. The innerduct guide tube assembly set forth in claim 1, wherein said guide tube is
15 manufactured from a material selected from the group consisting of polyester, nylon, Teflon, PEEK and polyvinylidene fluoride, or any combination thereof.

11. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is coated with material selected from the group consisting of: polyvinyl chloride, silicone,
20 acrylics, polyethylene or other olefins, and any combination thereof.

12. The innerduct guide tube assembly set forth in claim 1, wherein said guide tube is coated with material selected from the group consisting of: polyvinyl chloride, silicone, acrylics, polyethylene or other olefins, and any combination thereof.

5 13. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is manufactured from synthetic material containing a flame retardant additive.

14. The innerduct guide tube assembly set forth in claim 13, wherein said flame retardant additive is selected from the group consisting of: alumina trihydrate,
10 magnesium oxides, magnesium borates, zinc borate, ammonium phosphate, pentaerythritol, alkyd resins, polyols, melamine, melamine cyanurate, dicyandiamide, antimony oxides, halogenated organics, decabromodiphenyl oxide, ammonium phosphates, and organic phosphates and any combination thereof.

15 15. The innerduct guide tube assembly set forth in claim 1, wherein said guide tube is manufactured from synthetic material containing a flame retardant additive.

16. The innerduct guide tube assembly set forth in claim 15, wherein said flame retardant additive is selected from the group consisting of: alumina trihydrate,
20 magnesium oxides, magnesium borates, zinc borate, ammonium phosphate, pentaerythritol, alkyd resins, polyols, melamine, melamine cyanurate, dicyandiamide, antimony oxides, halogenated organics, decabromodiphenyl oxide, ammonium phosphates, and organic phosphates and any combination thereof.

17. The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is made from fabric comprising multi-component fibers.

5 18. The innerduct guide tube assembly set forth in claim 17, wherein said multi-component fibers are core-sheath types of fibers.

19. The innerduct guide tube assembly set forth in claim 18, wherein said multi-component fibers include a glass core wrapped with a layer of melamine.

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11/12/25. The innerduct guide tube assembly set forth in claim 19, wherein said multi-component fibers further include a layer of fire resistant polyester.

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15 The innerduct guide tube assembly set forth in claim 1, wherein said textile sleeve is a woven fabric having polyester yarns in the warp direction and nylon yarns in the fill direction.

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The innerduct guide tube assembly set forth in claim 1, wherein said guide tube contains means for installing a cable therein.

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The innerduct guide tube assembly set forth in claim 27, wherein said means for installing a cable comprises a structure chosen from the group consisting of pull tape, pull

cord, twisted monofilament yarn, braided yarn, monofilament yarn having a generally round cross-section, or any combination thereof.

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30. A process for inserting an innerduct guide tube assembly into a conduit, said
5 process comprising the steps of:

providing at least one guide tube;

providing a textile sleeve around said guide tube, so that said guide tube is

disposed within said textile sleeve in slidable relation; and

10 imparting a force on said textile sleeve for insertion into a conduit, wherein said
textile sleeve carries said guide tube into and through said conduit therewith.

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31. The process for inserting an innerduct guide tube assembly into a conduit as set
forth in claim 30, wherein said step of imparting a force on said textile sleeve includes
pulling said textile sleeve through said conduit.

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32. The process for inserting an innerduct guide tube assembly into a conduit as set
forth in claim 30, wherein said step of imparting a force on said textile sleeve includes
blowing said textile sleeve through said conduit.

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23. The process for inserting an innerduct guide tube assembly into a conduit as set
forth in claim 30, wherein said textile sleeve is made from material selected from the
group consisting of glass, aramid, PVDF, melamine, ceramic, polyvinyl chloride,

polyphenylene sulfide, polyester, nylon, Teflon, PEEK and polyvinylidene fluoride,
mineral fibers, basalt, carbon or any combination thereof.

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34. The process for inserting an innerduct guide tube assembly into a conduit as set
5 forth in claim *24* 30, wherein said textile sleeve is made from monofilament fiber.

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35. The process for inserting an innerduct guide tube assembly into a conduit as set
forth in claim *24* 30, wherein said textile sleeve is a woven article.

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10 36. The process for inserting an innerduct guide tube assembly into a conduit as set
forth in claim 30, wherein said textile sleeve is at least the same length as said guide tube.

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15 37. The process for inserting an innerduct guide tube assembly into a conduit as set
forth in claim *24* 30, wherein said textile sleeve exhibits a breaking strength of greater than
600 pounds in the longitudinal direction.

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38. The process for inserting an innerduct guide tube assembly into a conduit as set
forth in claim *24* 30, wherein a plurality of guide tubes are disposed within said textile
sleeve.